

Title:	SUNRAISE: Sustainable Natural Resource Use in Arctic and High Mountainous Areas
Number:	586335-EPP-1-2017-1-DE-EPPKA2-CBHE-JP (2017-3138/001-001)
Organizer:	Russian State Hydrometeorological University
Partners:	UniHB, PLUS, EMU, RSHU, SFU, GASU, ASMP, RUB, JNU, KU, CHEA

The purpose of the start-up seminar was to progress with the implementation of WP1 (Preparatory activities) and prepare WPs 2-4 (development of curriculum contents, e-services and governmental arrangements) in Russia. For further items and earlier made decisions please consider the presentations and official documents which can be found on the SUNRAISER Platform for Project Management (SP-PM). This URL is <http://sakai12.escience.uni-bremen.de>. Every partner can access the platform with their individual account. Partners who still don't have an account, please contact I. Novopashenny (novopashenny@zmml.uni-bremen.de).

Outline

01. Attendees
02. Introduction
03. Discussions
04. SUNRAISE Summer School 2018
05. Stakeholder seminar

01. Attendees:

- **Oxana Klimova**, Gorno-Altai State University (GASU)
- **Olga Zhuravleva**, Gorno-Altai State University (GASU)
- **Natalia Iurkova**, Gorno-Altai State University (GASU)
- **Nina Pakharkova**, Siberian Federal University (SFU)
- **Viktar Kireyeu**, Siberian Federal University (SFU)
- **Kalev Sepp**, Estonian University of Life Sciences (EMU)
- **Anton Shkaruba**, Estonian University of Life Sciences (EMU)
- **Aisulu Tordokova**, Altai-Sayan Mountain Partnership (ASMP)
- **Igor Novopashenny**, University of Bremen (UNIHB)
- **Mikhail Tretyakov**, Arctic and Antarctic Research Institute (AARI)
- **Elena Shestakova**, Arctic and Antarctic Research Institute (AARI)
- **Iulia Titova**, Arctic and Antarctic Research Institute (AARI)
- **Mariya Kalinovskaya**, VNIIO OceaGeo
- **Vyacheslav Nikishin**, Eco-Expert Ltd
- **Anna Fokicheva**, Russian State Hydrometeorological University (RSHU)
- **Eduard Podgaiskii***, Russian State Hydrometeorological University (RSHU)
- **Denis Alexeev**, Russian State Hydrometeorological University (RSHU)
- **Anna Cheremnykh**, Russian State Hydrometeorological University (RSHU)
- **Iana Skorik**, Russian State Hydrometeorological University (RSHU)
- **Tatiana Bagrova**, Russian State Hydrometeorological University (RSHU)
- **Valentina Strokina**, Russian State Hydrometeorological University (RSHU)
- **Ernest Estrin**, Russian State Hydrometeorological University (RSHU)
- **Vyacheslav Makeev**, Russian State Hydrometeorological University (RSHU)
- **Vladimir Chukin**, Russian State Hydrometeorological University (RSHU)
- **Vyacheslav Kolbin**, Russian State Hydrometeorological University (RSHU)

- **Lyudmila Kolomeyets**, Russian State Hydrometeorological University (RSHU)
- **Elena Kozlova**, Russian State Hydrometeorological University (RSHU)
- **Anastasia Stepanova**, Russian State Hydrometeorological University (RSHU)

*minute taker

02. Introduction

The participants of the meeting were met by Ms Elena Kozlova, local SUNRAISE coordinator and the Director of RSHU International Education Institute. She welcomed the participants to St Petersburg and the Russian State Hydrometeorological University and gave floor to Mr Eduard Podgaiskii who suggested some practical amendments to the proposed agenda and introduced Dr Anna Fokicheva, the Dean of RSHU Meteorological Faculty. Dr Fokicheva set up the framework for further discussion by giving a talk on Importance of hydrometeorological information for sustainable development of the Arctic region and introduced academic and research areas RSHU is focused.



03. Discussions

1. The specific needs of national and regional labour markets in comparison with the potential of partner institutions

The workshop participants discussed specific needs of national and regional labour markets in the field of sustainable management of ecosystems and natural resources in high mountainous and Arctic & Subarctic regions in comparison with the potential of partner institutions. Dr Oksana Klimova, Dean of the GASU Faculty of Natural and Geographical Sciences took the lead introducing the preliminary results of end-user surveys GASU conducted in Altai region. The meeting

participants discussed possible adjustments, specific requirements of the national and regional labour markets vs. capacities and capacity gaps of partner institutions. Dr Vyacheslav Makeev (RSHU) reported on the role of existing educational programs for sustainable development and responsible use of natural resources for the implementation of national strategy for Arctic. Similar approach with end-user survey can be used to fit existing curricula to the needs of stakeholders and identify gaps.

2. Draft ToR for e-services, presentation of alternatives and identification of capacity gaps within ICT infrastructure

Participants followed up with discussion on technical solutions for e-services. Ms Anna Cheremnykh, the head of RSHU Open and Distance Learning unit introduced solutions that are in use at RSHU. RSHU uses iSpring system for its professional development courses offered to aviation meteorologists, and LMS Moodle for its students. The university also has substantial experience in running webinars, using Mirapolis system for that. It was emphasized that user-friendliness of the system is a key to success and higher involvement of the end users. Dr Viktor Kireyeu from SFU introduced first prototype of SUNRAISER platform based on Moodle where SFU is already preparing an e-course for 2018 summer school “Monitoring and early warnings in mountain social-ecological systems”. All Russian universities have certain experience in using Moodle, and the issue of interoperability was raised. Theoretically, Moodle has LTI (Learning Tools Interoperability) capacity, which is a standard set of specifications for allowing third party learning applications, but there still is a risk of wasting time and efforts for matching different LMSs. Participants agreed that Moodle is a way to develop

3. Discussion of draft ToR for curriculum development

After lunch, discussion continued around e-services, MOOCs, intellectual property rights and the way consortium universities are going to secure proper usage of licensed and open source learning materials. Summer schools can be used for developing photo and videomaterials to be further used in MOOCs. Given that the working language of summer school will be English, this would help Russian participants to get new English-language Dr Shkaruba introduced the approach to course development and let further discussion. He reminded that the consortium is to revise and significantly upgrade the courses worth 12 ECTS, and to develop 30 ECTS of new BSc and MSc courses. The following tentative topics were agreed upon discussion:

science: feedback mechanisms between the global and regional climate systems and, nexus water-energy-food, permafrost ecology and geochemistry, biodiversity conservation, environmental pollution & remediation, monitoring & observations (including remote sensing and spatial data);
management: spatial planning & urbanisation, EIA, integrative pollution permitting, risk assessment & safety of physical infrastructure, sustainable energy, management of indigenous & local knowledge and co-management of natural resources shared by indigenous people, monitoring of early warnings, citizen science, development of green infrastructure and integrated nature-based solutions.

- **policy:** private vs. state governance of natural resources in A&HM areas & multilevel governance, adaptation & mitigation policies, SDGs, science-policy interfaces, geopolitics of A&HM.



The following procedure for the course development and revision has been proposed and agreed upon:

- Submission of the expression of interest for the development and/or revision of courses (i.e. filling in Table 2) – by April 20, 2018
- Evaluation of the submitted proposals in terms of relevance and overlaps; conclusions will be circulated to partners by May 1, 2018
- Submission of full course revision and development proposals (see the templates above) by July 1, 2018
- Evaluation of the proposed course relevance and/or sufficiency of the course revision (e.g. at least 30% of course contents (in terms of academic hours) are modified) by the subcontracted expert; draft ToRs based on course proposals, end-user survey and review of institutional capacities and constraints will be developed by August 1, 2018; the final one will be delivered by September 1, 2018
- Development and review of course syllabi (syllabi templates provided by the subcontracted expert); the revised courses need to be implemented starting the winter semester of the academic year 2018/19
- Course piloting and evaluation; new courses need to be started not later than the fall semester of the academic year 2019/20.

- Collection and development of course materials in the SUNRIASER (templates and guidelines are supplied by the subcontracted expert); the first versions of course materials (12 ECTS of revised and 30 ECTS of new courses) need to be uploaded by October 2019
- Review of course materials (institutional review, if applicable, and peer-review arranged by the external QA officer)
- Revision of syllabi and/or course materials following up the feedback.

4. SUNRAISE Summer School 2018

Colleagues from SFU and GASU informed on the status of preparation to first SUNRAISE Summer School to take place 16-29 July 2018 in Krasnoyarsk and consequently in Gorny Altai republic. The goal of the Summer School is to support sustainable governance of mountainous socio-ecological systems in Southern Siberia and beyond through the promotion of European expertise in problem framing and development of sustainable solutions for high mountains under the ever increasing pressure from tourism, recreation, urbanisation as well as global environmental change, such as climate change and large-scale environmental pollution. More specifically, the School aims to:

- build knowledge on the principles of the development of ecological and institutional monitoring (including citizen science) through the analysis of the EU experience and its relevance in Russian context, and apply technological and policy innovations in Siberia;
- build understanding on how are science-policy interfaces in governance of mountain ecosystems designed and how they work; build awareness of EU institutions regulating mountain social-ecological systems and their relevance in other national contexts based on comparisons of EU and Siberian experiences;
- develop understanding of sustainable development goals (SDGs) and sustainability indicators for mountain social-ecological ecosystems, including vulnerability indicators, and their social aspects;
- create the awareness of the concept of early warnings as applied to mountain ecosystems, and of the concept of the precautionary principle and its applications in the EU and elsewhere;
- develop innovative solutions and implementation plan to tackle specific, real-life local challenges (Cases) in co-production process with relevant stakeholders; and, ultimately
- create a cross-border praxis-academia community involved to the governance mountainous socio-ecological systems across Eurasia.

The overall approach to problem solving will be taken from EU policies concerned with land-use, water and biodiversity governance, risk management and precaution, and mediation of transboundary conflicts. Possible areas of research inquiry may include identification of tipping points and development of sustainability indicators, valorisation of ecosystem services, appropriate governance arrangement for public involvement in environmental decision-making and citizen science (including technological developments, such as internet of things), development of science-policy interfaces and communication of scientific uncertainty, risk management approaches and the applications of the precautionary principle, all in the context of creation of sustainable livelihoods and/or ecological sustainability of Altai Mountains and/or the surrounding regions. The proposed research framework has been thoroughly discussed and approved at the meeting.

5. Stakeholder seminar

The second day of the meeting was dedicated to stakeholder seminar. It was a combination of presentations, panel discussions and interviews. The following presentations were made:

- Shilin M.B. Ecological friendly port in the Arctic;
- Strokina V.Yu. Urgency, problems and perspectives of education in the field of environmental economics;
- Bagrova T.N., Yanenko A., Khadaev A. Monitoring of the soil cover of the Teberda State Natural Biosphere Reserve within the framework of the Nature chronicles;
- Kolomeets L.I. Model study of the variability of the climatic system of the Arctic zone;
- Shestakova E.N. Use and protection of Arctic water resources;
- Titova Yu.M. Integral assessment of watercourses stability to change of environmental parameters;
- Azimov A.M. The study of the flow of pollutants along the rivers of the south of Turkmenistan;
- Galliev R. Assessment of the state of Arctic fisheries resources;
- Ahmadeeva A. Aquatic biological resources of the peoples of the north;
- Kalinovskaya M.A. Mammoth tusk as a natural resource.





**SUNRAISE National Inception
Seminar
St Petersburg, Russia
12th – 13th March 2018
Minutes of Meeting**



At the end of the meeting, the participants had a chance to interview some employers working in Arctic zone. Those were:

- Head of "Arctic and Antarctic Research Institute" Department Tretyakov M.V.
- General Director of Eco-Expert Ltd Nikishin V.V.
- General Director of "Makis" Ltd Martynov S.V.
- Senior Researcher of the RAS Environmental Safety Center Voyakina E.Yu.
- "Arctic and Antarctic Research Institute" researcher and recent RSHU graduate Titova Yu.M.
- Researcher of the "Teberdinsky State Nature Biosphere Reserve" Bagrova T.N.
- Director of the Russian Center for Arctic Development (Salekhard) Baryshnikov A.V.

Dr Shkaruba has concluded the meeting, pointing out that the dialogue with students and end-users was highly productive, and gave the consortium confidence that it is on a right track, and that the project is more than likely to be very successful.